



U.S. Department of Energy
Energy Efficiency
and Renewable Energy



AVSG



**MA Clean Cities Coalition
EPAct Fleet Workshop**

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AVSG



A Brief History of AVSG

- AVSG was founded in 1992 and is based in Boston. It is one of only five companies in North America which can design, build, operate, and maintain CNG stations
- AVSG was formed, initially, to build electric vehicle (EV) infrastructure in greater-Boston
- The EV market never materialized and the business plan was altered to focus on compressed natural gas (CNG) vehicles and other alternative fuel vehicle technologies
- AVSG designed and built the Logan Int'l Airport CNG in October of 1995 and has maintained and operated the station ever since
- AVSG's mission is the promotion and deployment of clean transportation throughout the six-state New England region – primarily utilizing CNG
- AVSG is a one-stop shop for a complete turnkey transition to CNG
- Since 1995, AVSG has built a network of twelve (12) full public-access CNG stations in eastern MA and northern RI as well as nearly fifty (50) private-access CNG stations throughout New England



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Compressed Natural Gas (CNG) Vehicle Facts

- Compressed natural gas or CNG is the compressed form of natural gas. It is the same fuel consumers and businesses use for heating, hot water, drying, and cooking. CNG is compressed so a large volume may be stored in a relatively compact space - such as on board a vehicle.
- Natural gas is primarily a domestic product. Over 95% of the natural gas supplies originate in North America. Natural gas is transported via the underground pipe infrastructure.
- Natural gas is lighter-than-air, non-toxic to breathe or touch, and cannot contaminate soil or groundwater.
- The cost of CNG is \$2.40 per gasoline gallon equivalent (GGE) at AVSG retail CNG stations
- CNG has an octane rating of 130 versus an octane rating between 87-94 for gasoline.



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Compressed Natural Gas (CNG) Vehicle Facts (continued)

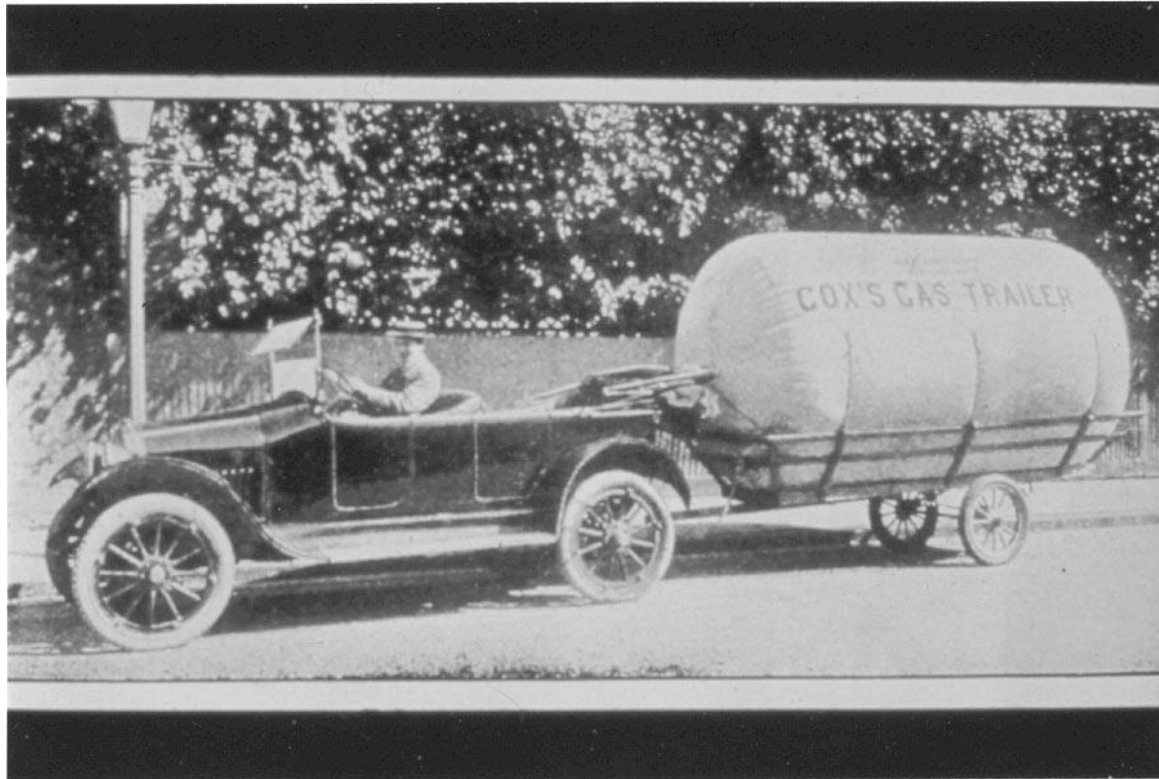
- On average, CNG vehicles emit (regulated emissions): 95% percent less particulate matter (PM), also known as soot, 90% percent less carbon monoxide (CO), and 75% less nitrogen oxide (NO_x).
- On average, CNG vehicles emit (non-regulated emissions): 20% less carbon dioxide (CO₂) compared to diesel vehicles and 30% less CO₂ compared to gasoline vehicles.
- CNG vehicles are typically 50% quieter than their diesel counterparts.
- CNG is one of the most prevalent alternative fuels in use today in New England.
- CNG is the fastest growing automotive fuel in the world.



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On-road applications:

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- Transportation - transit buses (RTAs), transportation management associations (TMAs), airport and hotel shuttles
- Delivery - beverage, linen, dry goods, and package
- Waste - trash removal and recycling
- Utilities – customer service vans, distribution trucks, pool sedans, dry freight

Off-road applications:

- Forktrucks - material handling
- Ice resurfacers - skating rinks



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Deploying CNG vehicles

- OEM – Original Equipment Manufacturer:

Light-duty: Honda GX sedan

Light- and medium-duty: GM's Chevrolet cargo and passenger vans

Heavy-duty: Freightliner products (straight-chassis delivery trucks)

- Up-fit or conversions:

Light- and medium-duty:

BAF Technologies for Ford products (vans and pickups)

Baytech for GM products (vans and pickups)

Natural Drive for GM products

Altec Eco for Ford products



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CNG stations:

- The AVSG network of CNG stations is open 24/7/365
- All stations accept MasterCard, VISA, and Wright Express credit and fleet cards.
- It is suggested that first time customers be trained at one of the CNG stations by AVSG personnel (approximately 30 minutes).
- A comprehensive list of all New England CNG stations is located at: www.northeastgas.org – click on “Industry Information” and then “CNG Station Maps”.





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CNG stations typically require:

- The highest possible gas pressure available
- Electric service with a minimum of 460 VAC – 400 A – 3 phase
- Telephone service for modems and credit card interface
- Approximately 10,000 to 15,000 square feet of relatively level land
- Other requirements (setbacks, etc) can be found in NFPA 52 -2010



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CNG customers here in greater-Boston:

- AVSG
- Allied Waste Systems
- Massport
- MBTA
- MassHighway
- The Steamship Authority
- Town of Weston
- Partners HealthCare Systems
- CityView Trolley Tours
- GSA
- MA Turnpike Authority
- Lowell Regional Transit Authority
- Pre-Flight Parking
- Comfort Inn Suites
- Hampton Inn
- Charles River TMA



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If you have any questions, please consider AVSG as your “one-stop shop” for any/all questions or concerns regarding the CNG industry as a whole or AVSG’s capabilities in particular.

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